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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PAK, SUNG H

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,430

Applicant(s)

GOULD ET AL.

Examiner

Sung H. Pak

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-12 and 14-21 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Applicants' amendment filed 10/01/2003 has been entered and all the pending claims have been carefully reviewed. Claims 1-7 have been amended to recite "the first and second ends" of the fiber optic cable being received in the internal cavity of a water-tight splice housing. The amended limitation has been reconsidered by the examiner, however the claims are still unpatentable. A new ground of rejection is furnished in this office action in response to the newly added limitation. Please refer to Response to Arguments for details.

Terminal Disclaimer

The terminal disclaimer filed on 10/01/2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent No. 6,382,845 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson et al (US 4,846,565) in view of Mullaney et al (US 5,323,480).

Swanson et al reference was cited in the information disclosure statement.

Swanson et al reference discloses a fiber optic patch device with all the limitations set forth in the claims, except it does not teach a splice housing containing the first and second ends of the fiber optic cable. Specifically, Swanson et al discloses: regarding claims 1, 5-7, a fiber optic patch cable having first and second ends ("16" Fig. 1); regarding claim 3, a first mechanical fiber optic splicer disposed in an enclosure adapted to be coupled with the first end of the fiber optic cable and the first end of the fiber optic patch (Fig. 4); a second mechanical fiber optic splicer disposed in an enclosure adapted to be coupled with the second end of the fiber optic cable and the second end of the fiber optic patch (Fig. 4); a water-tight splice housing defining an internal cavity (Figs. 5-6), the internal cavity being adapted to receive the first and second mechanical fiber optic splicers disposed in enclosures, the fiber optic patch, and portions of first and second ends of fiber optic cables (Fig. 5, column 7 line 40- column 8 line 3).

Mullaney et al reference, on the other hand, explicitly teaches a water-tight splice housing containing first and second ends of the optical fiber cables being spliced (Figs. 1-3). Mullaney et al reference teaches that such an arrangement is advantageous and desirable over the prior art devices because it is capable of carrying plurality of splice trays and prevent undesirable bending in fiber optic cables (column 3 lines 25-44). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Swanson et al device to be placed inside of Mullaney et al's water-tight splice housing.

Regarding claims 3, the enclosures "20" and "24" in Fig. 1 can also be referred to as "splice tray."

Claims 8-12, 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson et al (US 4,846,565) in view of Yin et al (US 5,312,468), as discussed in the previous office action.

Swanson et al reference discloses a fiber optic patch device with all the limitations set forth in the claims as discussed above, except it does not teach angle cleaving of fiber optic ends. Regarding claims 8 and 17, Although Swanson et al reference does not explicitly state the method of patching fiber optic cables, such method steps would be inherently met by using the device disclosed as discussed in the rejection of earlier claims.

Regarding claims 8 and 17, although the housing is not designed to enclose a portion of the fiber optic cable, such a modification would have been obvious to a

person of ordinary skill in the art. According to the disclosure the housing is primarily used for storing the fiber optic patch device during the delivery of the device to the repair site (column 7 lines 40-45). However, due to the proliferation of the fiber optic use in numerous communications applications, these repairs must be made often in harsh environmental surroundings (i.e. underground, underwater environment, etc.). As such, the use of water-resistant protective housings in fiber optic splicing and fiber optic repairs is well known in the art. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Swanson et al's protective housing to enclose a portion of the fiber optic cable and the housing to be deployed with the fiber optic patch at the repair site.

Even though Swanson et al does not disclose the method of angle cleaving optical fiber ends as recited in claims 9-11, and 18, such method is known in the prior art as taught by Yin et al (Fig. 4, and abstract). Yin et al discuss that angled cleaves are advantageous because they minimize back reflections (column 1 lines 5-36).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Swanson et al teachings to include a method of angle cleaving optical fiber ends. It would have been desirable to minimize back reflections.

Allowable Subject Matter

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The obviousness type double patenting rejection is withdrawn in view of the terminal disclaimer filed 10/01/2003.

Response to Arguments

Claims 1-3, 5-7:

The pending claims are now amended to recite “the first and second ends” of the fiber optic cable being disposed within the internal cavity of the water-tight splice housing. Although Swanson et al reference teaches *a portion* of the first end of the cable disposed in a splice housing and *a portion* of the second end of the cable disposed in another splice housing, it does not teach the first and second ends of the cable being disposed in a water-tight splice housing.

However, disposing first and second ends of fiber optic cables within a water-tight splice housing along with mechanical splices and splice trays is known in the art as taught by Mullaney et al reference. Water-tight housing of Mullaney et al provide efficient structures for disposing and arranging plurality of fiber trays and preventing undesirable bends in fiber optic cables. Therefore, one of the ordinary skill in the art

would be motivated to modify Swanson et al device in view of Mullaney et al's teaches to have splice housings as taught by Mullaney et al reference.

Claims 8-12, 14-21:

The ground of rejection provided in the previous office action is upheld by the examiner. Starting on page 8 of the applicant's response, it is argued that the Swanson et al reference does not teach "enclosing the fiber optic patch and portions of the first and second ends of the fiber optic cable within an internal cavity of a splice housing."

As discussed in the previous office action and this office action, Swanson et al reference does teach a housing that that stores the fiber optic patch (Fig. 5-6). However, this housing is only used during the delivery as discussed in the previous office action. And, the examiner respectfully points out that a protective splice housing that includes portions of spliced fiber optic cable ends and which is also impervious to water is well known in the art as discussed in the previous office action. Mullaney et al reference is an example of this well-known teaching. Thus, the examiner believes that "enclosing the fiber optic patch and portions of the first and second ends of the fiber optic cable within an internal cavity of splice housing" is obvious to a person of ordinary skill in the art, and the claim rejection based on 35 USC 103(a) is, therefore, proper.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (703) 308-4880. The examiner can normally be reached on Monday - Thursday : 6:30am-5:00pm.

The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



sp

Sung H. Pak
Examiner
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AKM ENAYET ULLAH
PRIMARY EXAMINER